

AMENDMENTS TO CLAIMS

1. (currently amended) A cell-based switch ~~that is capable of being utilized with fibre channel frames~~, comprising:
~~a cell-based switch fabric wherein cells in said switch fabric are packed as a fibre channel frame is received and immediately transmitted through said switch fabric~~
 - a. a switch input containing logic to:
 - i. receive from a source an input frame containing a frame payload,
 - ii. establish a connection between an input port and an output port upon detection that the start of the frame has been received at the switch input,
 - iii. transmit the frame payload and an end-of-packet (EOP) indicator designating the end of the frame payload from the input port; and
 - b. a switch output containing logic to:
 - i. receive the frame payload and the EOP indicator from the input port,
 - ii. release the connection upon detection that the EOP indicator has been received at the output port, and
 - iii. transmit through the output port an output frame containing the frame payload.
2. (currently amended) A cell-based switch according to claim 1, wherein said switch ~~fabric input is capable of providing~~ contains further logic to partition the frame payload among cells in a packet and to include the an end of packet (EOP) character to indicator in a cell [[in]] of the packet.
3. (currently amended) A ~~cell-based~~ cell-based switch according to claim 2, wherein said EOP ~~character~~ indicator is provided at the beginning of said cell.

4. (currently amended) A ~~cell-based~~ cell-based switch according to claim 2, wherein said EOP ~~character~~ indicator is provided at the end of said cell.
5. (currently amended) A method for rendering a fixed length cell-based switch fabric usable with a variable length frame-based protocol, comprising:
 - releasing a switch connection prior to transmission of the number of cells corresponding to ~~[[the]]~~ a maximum packet length ~~[[of a]]~~ for packets in the frame-based protocol, and
 - triggering said releasing on recognition of an End of Packet (EOP) indicator set in any cell of a data stream.
6. (original) A method according to claim 5, wherein said triggering is enabled by a specific act of setting a register bit and/or connecting a pin to Vcc or ground.
7. (original) A method according to claim 5, wherein releasing defaults to an inactive state upon reset.
8. (original) A method according to claim 5, wherein the variable length frame based protocol is Fibre Channel.
9. (currently amended) The method according to claim 5, wherein said EOP indicator is contained in an EOP field, said EOP field located at the beginning of each cell.
10. (currently amended) The method of claim 9 further comprising the steps of:
 - buffering each cell in said packet at the ~~[[input]]~~ switch input of the cell-based switch fabric~~[[; and]]~~,
 - ~~generating said EOP indicator after buffering a cell, setting the EOP field~~ in the cell to indicate whether the cell is the last cell associated with the packet,
 - and

~~inserting said EOP in beginning fields of said data stream~~ after setting the EOP field in a cell, sending the cell to the switch output before buffering the next cell, if any.

11. (currently amended) The method according to claim 9 wherein said EOP ~~indicator~~ field is a single bit.
12. (currently amended) The method according to claim 5, wherein said EOP ~~indicator~~ is contained in an EOP field, said EOP field located at the end of ~~said~~ each cell.
13. (currently amended) The method according to claim 12, further comprising the steps of:
 - ~~transmitting said~~ sending each cell from the switch input as soon as ~~it~~ the cell becomes available after setting the EOP field in the cell to indicate whether the cell is the last cell associated with the packet;
 - and
 - buffering each cell in said packet at the ~~output~~ switch output of the cell-based switch fabric;
 - ~~calculating said EOP indicator~~ after buffering a cell at the switch output,
 - recognizing indication of EOP if so designated by the EOP field of the cell; and
 - ~~inserting said EOP in the fields at the end of said cell~~ transmitting the cell before buffering the next cell, if any.
14. (currently amended) An apparatus for rendering a fixed length cell-based switch fabric usable with a variable length frame-based protocol comprising means for releasing a switch connection prior to transmission of the number of cells corresponding to ~~[[the]]~~ a maximum packet length of a packet in the frame-based protocol, and means for triggering said releasing on recognition of an End of Packet (EOP) indicator set in any cell of a data stream.

15. (original) An apparatus according to claim 14, wherein said means for triggering is enabled by a specific act of setting a register bit and/or connecting a pin to Vcc or ground.
16. (currently amended) A apparatus according to claim 14, wherein said means for releasing will default to an inactive state upon reset.
17. (original) A apparatus according to claim 14 wherein the variable length frame based protocol is Fibre Channel.
18. (original) An apparatus according to claim 14, wherein the EOP indicator is located at the beginning of said cell.
19. (canceled)
20. (currently amended) The apparatus of claim 16 wherein said EOP indicator is a single bit.
21. (new) The cell-based switch of claim 2, wherein said cell containing the EOP indicator is the last cell in the packet.
22. (new) The cell-based switch of claim 2, wherein said cell containing the EOP indicator follows the last cell in the packet.
23. (new) The switch of claim 1, wherein the frame is a Fibre Channel frame.
24. (new) The switch of claim 1, wherein the switch is a cross-bar switch.
25. (new) A cell-based switch, comprising:
 - a. a switch input containing logic to:
 - i. receive from a source an input frame containing a frame payload,
 - ii. partition the frame payload among cells having the same

- capacity within a packet as cell payloads, at least one cell other than the last cell having a payload size less than the cell capacity, and
 - iii. transmit the packet to a switch output; and
 - b. a switch output containing logic to:
 - i. receive each cell in the packet from the switch input, and
 - ii. extract from each cell the cell payload and transmit the cell payload to a destination.
- 26. (new) The switch of claim 25, wherein the switch input and the switch output require a combined buffer size not greater than the cell capacity.
- 27. (new) The switch of claim 25, wherein the switch input contains further logic to include within each cell an indicator designating the cell payload size of that cell.
- 28. (new) The switch of claim 25, wherein the input frame is a Fibre Channel frame and the switch output further contains logic to transmit the cell payloads from a packet to the destination within an output frame.
- 29. (new) The switch of claim 25, wherein the switch is a cross-bar switch.
- 30. (new) A method for transmitting a frame through a cell-based switch, comprising:
 - a. obtaining a frame containing a frame payload from a source at a switch input;
 - b. partitioning the frame payload among cells having the same capacity within a packet as cell payloads, at least one cell other than the last cell having a payload size less than the cell capacity;
 - c. transmitting each cell to a switch output;
 - d. at the switch output, extracting the cell payload from each cell and transmitting the cell payload to a destination.

31. (new) The method of claim 30, wherein the switch input and the switch output require a combined buffer size not greater than the cell capacity.
32. (new) The method of claim 31, further comprising:
 - e. adding to each cell a size indicator designating the size of the payload of that cell before transmitting the cell to the switch output.
33. (new) The method of claim 32, wherein the size indicator is contained in a size field located at the start of the cell.
34. (new) The method of claim 33, further comprising:
 - f. buffering each cell in a buffer at the switch input until the cell payload has been placed into the cell;
 - g. setting the size indicator in the size field; and
 - h. transmitting the cell to the switch output before buffering the next cell, if any.
35. (new) The method of claim 32, wherein the size indicator is contained in a field located at the end of the cell.
36. (new) The method of claim 35, further comprising:
 - f. buffering each cell in a buffer at the switch output;
 - g. extracting the size indicator from the size field;
 - h. distinguishing the cell payload from unused space within the cell using the size indicator; and
 - i. transmitting the cell payload to a destination before buffering the next cell, if any.